A RUELLIA (ACANTHACEAE) SPECIES IN EXOGONIUM (CONVOLVULACEAE)

Dieter C. Wasshausen[1] and Daniel F. Austin[2]

Reevaluation of the generic status of *Exogonium* has shown that the taxon presently includes several species better placed elsewhere (Austin, unpublished). The most discordant element in the group is *Exogonium velutifolium* House. While the second author was studying the specimens at the Smithsonian Institution in 1971 it became obvious that this species was not a member of the Convolvulaceae. We conferred and decided that the species was a previously unnamed *Ruellia*. To avoid a cumbersome citation by publishing the new combination in Austin's study of *Exogonium* we decided to publish it separately.

RUELLIA VELUTIFOLIA (House) Wasshausen & Austin, comb. nov.

Basionym: *Exogonium velutifolium* House, Bull. Torrey Bot. Club 35: 100. 1908.

Type. Mexico, Oaxaca, west side of the valley of Cuicatlan, 2000-4000 ft. alt., Nov. 9, 1894, *Nelson 1887* (holotype GH, isotype US).

Suffrutescent herb; stems simple or branched, to 40 cm. high or more, erect or ascending, obscurely quadrangular, velvety-pubescent above, glabrous below; leaf blades oblong-ovate, 6-30 mm. long, obtuse, rounded at the base, entire or irregularly crenate-lobed toward the base, both surfaces densely velutinous; petioles 2-5 mm. long, velutinous; flowers borne axillary or terminal, 2 or 3 together, sessile or nearly so near the ends of the branches; bracts 2, linear-lanceolate, 5-7 mm long, densely velutinous without; calyx 8-9 mm long, the segments subequal, lanceolate, acuminate, tomentose, especially toward the tip; corolla tubular, 3 cm. long or less, crimson, glabrous to puberulous, the narrow portion of the tube 8-10 mm. long, 3 mm. broad at base, narrowed to 1.5 mm., thence gradually enlarged to 8 mm. at the mouth, slightly ventricose, the slightly spreading limb with 5 rounded lobes, these obovate, 5-6 mm. long and wide; stamens subequal, barely reaching the tip of the corolla lobe; staminode subulate, 1.5 mm. long, glabrous; anthers curved, 2 mm. long and 1 mm broad; pollen

[1]Department of Botany, Smithsonian Institution, Washington, D.C.
[2]Department of Biological Sciences, Florida Atlantic University, Boca Raton, Florida 33432

grains spheroid or prolate, about 50 μ in diameter; ovary cylindric, 3.5 mm. long, glabrous; style 26 mm. long, glabrous, truncate; capsule not seen.

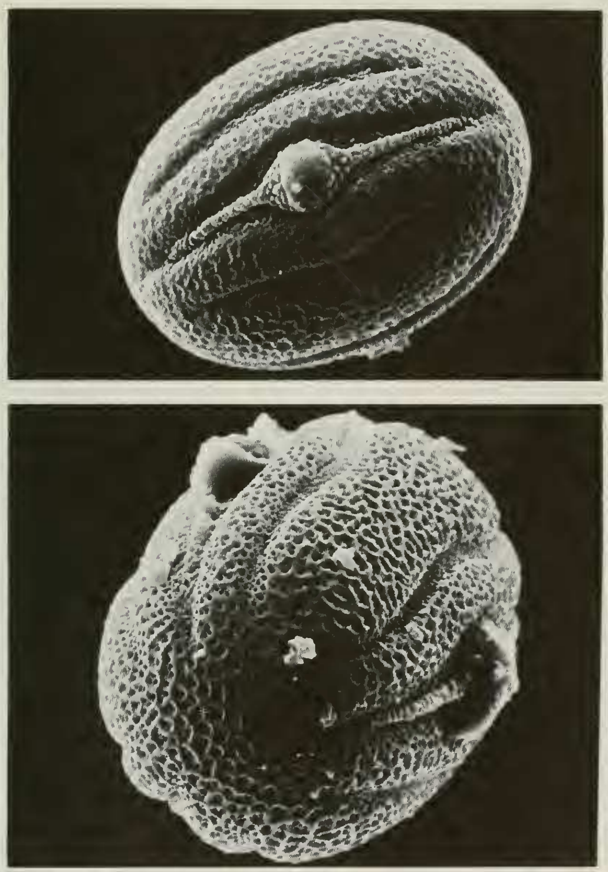
This species is closely related to R. fruticosa (R. cupheoides Fernald), from which it may be distinguished by its smaller leaf blades (6-30 mm. long), sessile or nearly so flowers, and the crimson corolla; those of R. fruticosa have larger leaf blades (30-50 mm. long), the flowers borne on slender peduncles 2-6 cm. long, and the corolla yellow or reddish, with greenish lobes. The species is known only from the type locality.

The pollen of R. velutifolia is unique, it is not of the "Wabenpollen" type usually found in Ruellia but rather of the "Spangenpollen" type, figured by Lindau (Beiträge zur Systematik der Acanthaceen. Bot. Jahrb. 18: 36-64. 1893). The pollen grains here are spheroid or prolate, about 50 μ in diameter, with three germ pores each in a longitudinal furrow (mesocolpium) reaching almost to the pole, the grains thus being primarily three-furrowed (tricolpate). In addition, there are two shorter subsidiary longitudinal furrows (pseudocolpus) on each side of the main furrow, these nine furrows all converge but do not join at the poles.

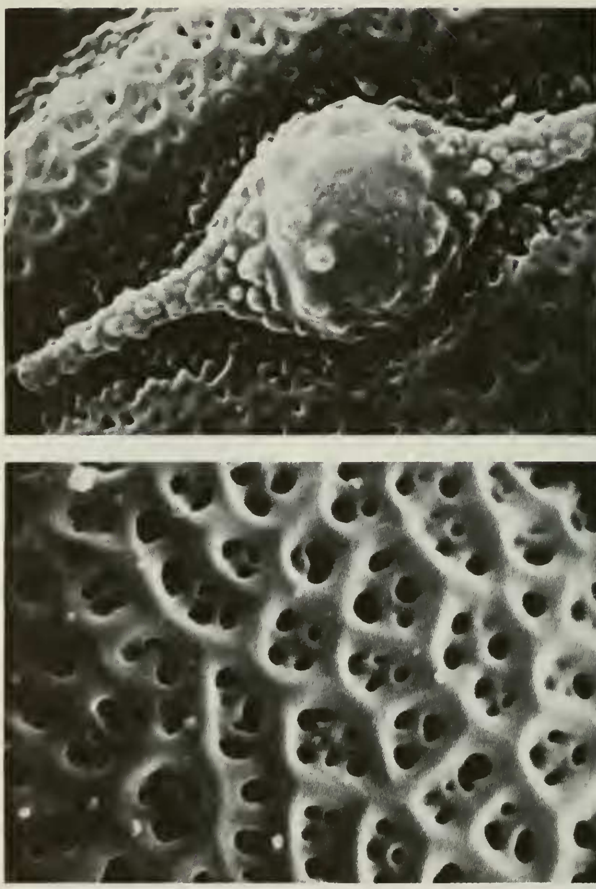
The accompanying photographs were made with the scanning electron microscope (Cambridge Sterioscan Mark 2A), at magnifications between X 1500 and X 5400.

ACKNOWLEDGEMENTS

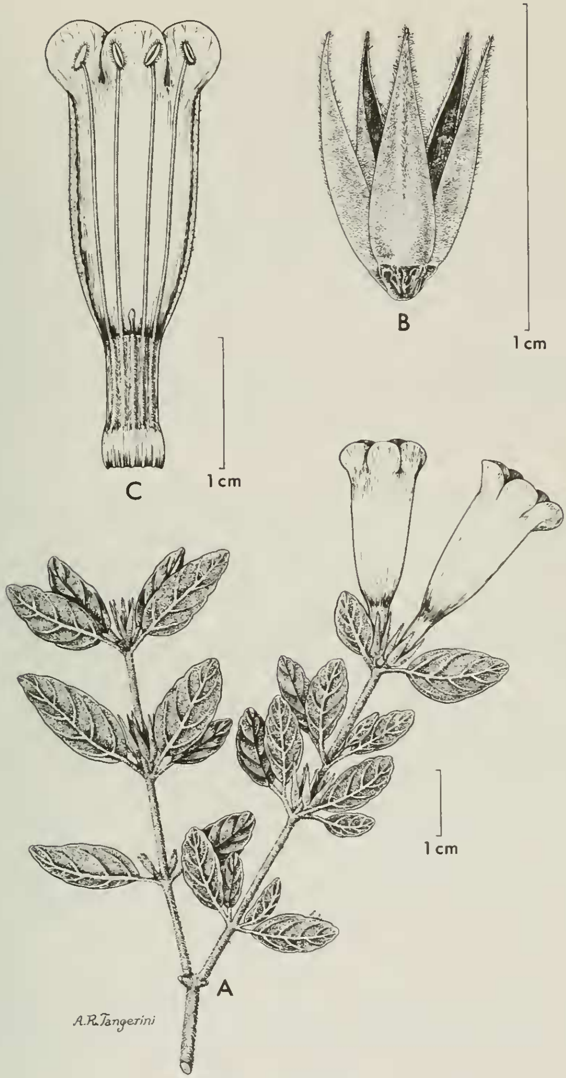
This study was supported by a grant to the second author from the Division of Sponsored Research of Florida Atlantic University and a grant from the National Science Foundation (Smithsonian Institution's 1971 Summer Institute in Systematics -- Species Diversity).



Pollen grain of Ruellia velutifolia (House) Wasshausen & Austin (Nelson 1887); above, equatorial view, X 1500; below, polar view, X 2000.



Pollen grain of Ruellia velutifolia (House) Wasshausen & Austin (Nelson 1887); above germ pore, X 5400; below, surface view, X 5000.



Ruellia velutifolia (House) Wasshausen & Austin: A, Habit, X 1. B, calyx, X 5. C, flower in horizontal section, X 2.